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The value of lateral decubitis abdominal X-ray in the diagnosis of perforation

Eurasian Clinical and Analytical Medicine Original Image

Perforation

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A 72-year-old male home-care patient was admitted to our emergency department with a complaint of decreased oral intake. His past medical history was notable for an unnamed muscle disorder, glaucoma, and panic attacks. Physical examination revealed decreased bowel sounds and abdominal distention. Laboratory investigations showed an increased white blood cell count (32,920 cells/μL) and elevated C-reactive protein level (270 mg/L). Due to patient immobilization, a lateral decubitus abdominal X-ray was performed, which revealed free air (Figure 1). Subsequently, contrast-enhanced computed tomography (CT) demonstrated a sigmoid colon perforation.

In a study by Bansal et al., X-ray demonstrated pneumoperitoneum in 89.2% of 1,723 patients, highlighting that "plain radiography is one of the first-line investigation techniques, especially in developing countries with limited availability of resources".[1] Moriwaki et al. reported that bedside ultrasonography had a sensitivity of 85% and specificity of 100% in patients presenting with severe abdominal pain and intraperitoneal free fluid.[2] Chiu et al. showed that while erect chest radiographs had a sensitivity of 85.1%, left lateral decubitus abdominal plain films reached 98% sensitivity in diagnosing free fluid.[3]

Therefore, taking plain radiographs in the lateral decubitus position remains one of the first-line diagnostic tests for immobile patients in the emergency department.

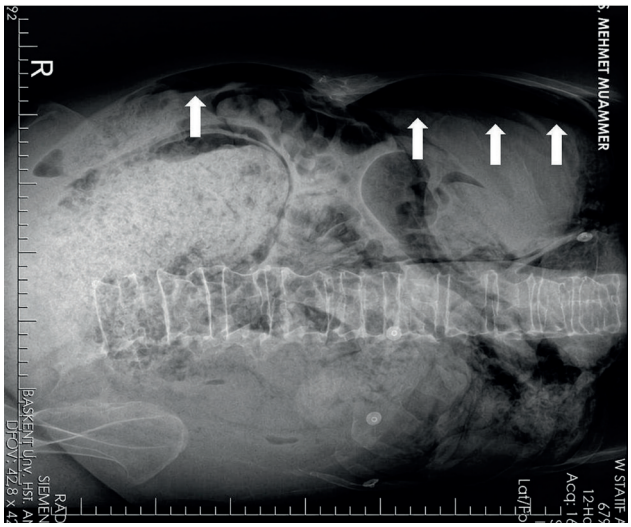

Figure 1. Lateral decubitis abdominal X-ray

Declarations

Animal and Human Rights Statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments.

Informed Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Conflict of Interest

The authors declare no conflicts of interest.

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Scientific Responsibility Statement

The authors declare that they are responsible for the scientific content of the article, including the study design, data collection, analysis and interpretation, manuscript preparation, and approval of the final version of the manuscript.

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